



## Making Treatment Decisions

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# Hydrogen Peroxide Therapy

Other common name(s): Hydrogen Peroxide

Scientific/medical name(s): H<sub>2</sub>O<sub>2</sub>

### Description

Hydrogen peroxide is a clear, odorless oxygen solution that is widely available for use in cleaning and disinfecting wounds. In high concentrations (eg, 35%), hydrogen peroxide is used by alternative practitioners as a treatment for cancer and other diseases.

### Overview

Although hydrogen peroxide is well known for its antiseptic properties, there is no evidence that it has value as a treatment for cancer or other diseases. It can be toxic at concentrations above 10%.

### How is it promoted for use?

Proponents claim that hydrogen peroxide therapy can be used to oxidize toxins, kill bacteria and viruses, and stimulate the immune system. It is promoted for everything from cleansing the digestive tract to curing cancer and other diseases such as arthritis. Some people advocate cleaning foods with it prior to eating.

Supporters of hydrogen peroxide therapy believe that cancer cells grow rapidly if they are deprived of oxygen. They claim that hydrogen peroxide can cure cancer by bombarding cancer cells with more oxygen than they can handle (see Oxygen Therapy).

### What does it involve?

Hydrogen peroxide is used internally or injected. Some practitioners promote it for use rectally, vaginally, as a nasal spray, and as eardrops. It is often used to soak affected parts of the body. The stronger solution recommended by alternative medicine practitioners (about 35%) are sold in some health food stores.

Because of its antiseptic and whitening properties, hydrogen peroxide is found in some toothpastes and mouthwashes, usually at a 3% (or less) solution. In stronger solutions of about 10%, it is used as hair bleach, and in industry to bleach paper and cloth, to manufacture other chemicals, and as an ingredient in some rocket fuels.

### What is the history behind it?

One of the earliest accounts of the scientific study of hydrogen peroxide was a short article by I.N. Love, MD, in 1888 in the Journal of the

American Medical Association. Dr. Love reported that the hydrogen peroxide was useful in treating diseases such as scarlet fever, diphtheria, cancer of the uterus, and pneumonia. In 1920, hydrogen peroxide injections were used to treat patients during an epidemic of viral pneumonia.

Many promoters base their claims on the ideas of Otto Warburg, a Nobel Prize winner in the 1930s. His theory was that cancer cells grow better under conditions where there are lower levels of oxygen. Contemporary use of hydrogen peroxide can be traced to Father Richard Wilhelm, a retired high school teacher and former Army chaplain. He claimed to have discovered the healing potential of hydrogen peroxide through acquaintance with a physician who headed the Mayo Clinic's division of experimental bacteriology, Edward Carl Rosenow, MD.

#### What is the evidence?

Medical researchers have studied hydrogen peroxide for over a century to determine if it can cure various diseases. In the 1940s, hydrogen peroxide was tested on animals to see if it could treat carbon monoxide poisoning, hemorrhage, and toxic reactions of exposure to certain chemicals. During the next three decades, many researchers studied the effects of hydrogen peroxide on tumors in laboratory animals. When used alone, hydrogen peroxide was not effective.

Some have investigated it as an addition to radiation therapy. Although some patients appeared to benefit, many did not. Attempts to treat patients with hydrogen peroxide injections directly into solid tumors or into the blood system have generally been ineffective. There is currently no scientific evidence that hydrogen peroxide therapy is effective for treating any of the conditions that have been claimed.

#### Are there any possible problems or complications?

Hydrogen peroxide can be harmful if swallowed. Drinking the concentrated solutions sold in some health food stores (35%) can cause vomiting, severe burns of the throat and stomach, and even death. Direct skin contact or breathing the vapors of hydrogen peroxide can also be harmful.

Hydrogen peroxide injections can have dangerous side effects. High blood levels of hydrogen peroxide create oxygen bubbles that can block blood flow and cause gangrene and death. Acute hemolytic crisis (destruction of blood cells) has also been reported following intravenous injection of hydrogen peroxide. Women who are pregnant or breast-feeding should not use this method.

#### References

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